



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,051	01/29/2001	Kazuhisa Shida	0941.65172	8505
24978	7590	04/30/2004	EXAMINER	
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			UHLIR, NIKOLAS J	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/772,051

Applicant(s)

SHIDA ET AL.

Examiner

Nikolas J. Uhler

Art Unit

1773

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 April 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 6 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See attached sheet.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: none.

Claim(s) objected to: 17 and 18.

Claim(s) rejected: 1-13 and 15-18.

Claim(s) withdrawn from consideration: none.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

Art Unit: 1773

Continuation of box 2(a)(c): The proposed amendments will not be entered because they present new issues that require further search and consideration to determine patentability. Specifically, the proposed amendment does not render the case allowable, and presents a number of new combinations that were not previously presented. Specifically, the proposed amendment would enter the limitations of claim 4 in to claim 1, the limitations of claim 11 into claim 8, and enter in entirely new limitations into claim 16. Claims 2-3 and 7 never before required the limitations of claim 4. Further, claims 9-10 and 15 never before required the limitations of claim 11. Finally, neither claim 16 nor a claim dependant from claim 16 ever required the limitations suggested by the proposed amendment. Thus, proposed amendment presents new limitations that were not earlier presented, and requires further search and consideration to determine patentability. In view of these new combinations, the proposed amendment does not simplify the issues for appeal.

Continuation of box 5(c): The arguments/request for reconsideration has been considered but does not place the application in condition for allowance. The applicant primarily argues that one of ordinary skill in the art would not have been motivated to modify the Matsuda reference with Malhotra and Bian as asserted by the examiner. Specifically, the applicant argues that Bian actually teaches away from the limitations required by the independent claims in the proposed amendment. Specifically, the applicant asserts that Bian, at column 4, lines 1-7 teaches that the amount of Ti in the second Cr alloy underlayer should be less than the amount of Ti in the first Cr

Art Unit: 1773

underlayer, whereas the proposed amendment (and previous claims 4 and 11) require the second underlayer to have *larger* amounts of non-magnetic elements other than Cr in the second underlayer.

This argument is unpersuasive. Column 4, lines 1-7 of Bian states:

"Underlayers which can be successfully used with CrTi seed layers include Cr, CrV alloys with V ranging from 0-50% and CrTi alloys with Ti ranging from 0-30%. The underlayer composition should be chosen with the magnetic layer in mind according to known prior art principles. Since Ti expands the Cr lattice, optimum lattice parameter matching between the Cr-alloy and Co-alloy magnetic layer is not necessarily achieved at the higher Ti concentrations that are preferred for the seed layer."

The examiner notes that at column 2, line 39-63, Bian teaches that the seed layer is an alloy of Cr and Ti, wherein the amount of Ti is >5at%.

Looking at these statements together, it seems quite clear that Bian clearly envisioned embodiments wherein CrTi seedlayer containing slightly greater than 5 atomic % Ti is utilized beneath a CrTi second underlayer that contains 30 atomic % Ti.

Further, The statement that "optimum lattice parameter matching between the Cr-alloy and Co-alloy magnetic layer is not necessarily achieved at the higher Ti concentrations that are preferred for the seed layer" does not teach away from using higher amounts of Ti in the underlayer. Rather, this statement suggests exactly what the examiner asserted in the final rejection. Namely, that the concentration of Ti in the second underlayer is a results effective variable, with the amount of Titanium being chosen so as to match the underlayer lattice to the magnetic layer. Depending on the lattice spacing of the Co based

Art Unit: 1773

magnetic layer, more or less Ti would be required to match the lattice of the underlayer to the magnetic layer. The principal of lattice-matching an underlayer to a magnetic layer by controlling the composition of the underlayer is principal that is old and widely known in the art of magnetic media.

Accordingly, applicant's arguments are unpersuasive.

NJL
Nikolas J. Uhler

Paul Thibodeau
Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700